LTC JAMES E. BUCHWALD

Chief, Live Training Division

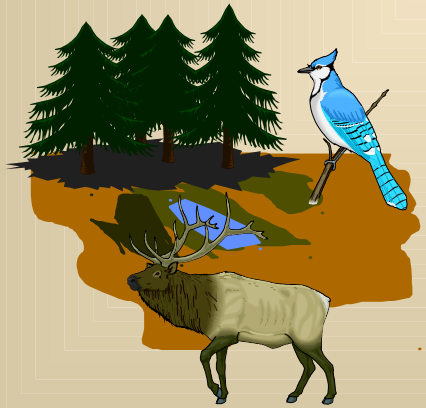
Our Army Training Role

Through ODCST/HQ TRADOC, HQDA Executive Agent:

- **Range and Training Land Program (RTLP)**
- **Training Ranges and Target Systems**
- **Training Ammunition (STRAC)**
- **Training Device Requirements Documentation, and Training Aids, Devices, Simulators, & Simulations (TADSS) Requirements**
- **Integrated Training Area Management (ITAM)**
- **Live Training Infrastructure Support**

The Army's Training Challenge

Live Training Requirements
BALANCED WITH
Internal and External Encroachment Pressures
to support
Opera[illegible]dines

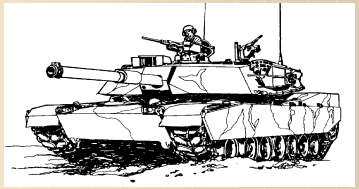


Perceived “Threats” To Training

HISTORICAL PRESERVATIO N

SAFE DRINKING WATER

HAZARDOUS WASTE



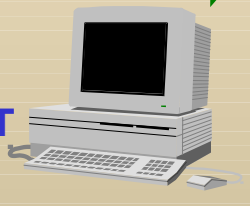
RANGE INVENTORY MUNITIONS RULE

ENDANGERED SPECIES

CLEAN WATER

NATIVE AMERICANS

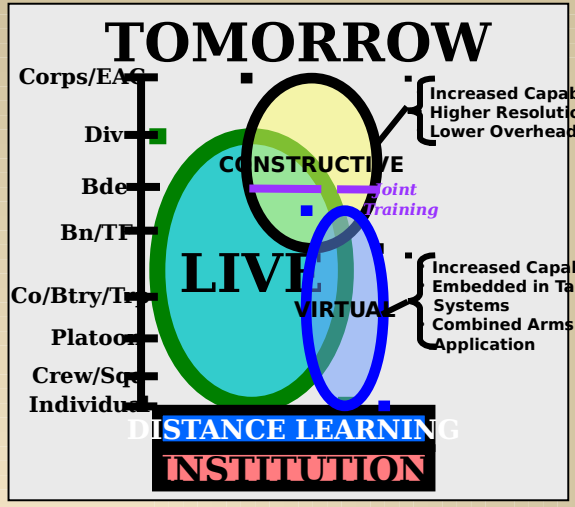
URBANIZATION



INTERNET

SCRAP METAL RECOVERY

Live Training



- **Develop and sustain skills best trained in Live Domain.**
- **Provide opportunity to validate in real time and space the Constructive and Virtual Domains' proficiencies.**
- **Harden the force under realistic conditions.**

Provide:

- **Realistic Force on Force training battlefield**
- **Relevant feedback capabilities**
- **Challenging live-fire ranges**
- **Relevant training tools (TADSS)**

Live Fire Range Development Challenges

Force Modernization

- Digitization of the Force.
- Increased weapons lethality and range capabilities.
- Increased Focus on Urban Combat.
- Increase depth & breadth of battle space.

Range Modernization

Transforming Training Support

TODAY

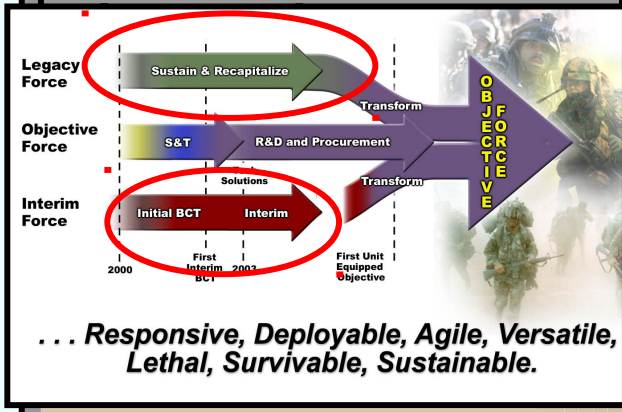
- Can't replicate future weapons effects and SMART munitions
- Limited embedded training
- Large infrastructure
- No homestation Instrumentation
- Limited deployed training support capability
- No common training architecture
- "Cold War" threat based
- Multiple disparate tactical engagement systems (TES)
- Analog based
- L-V-C integrated with ad hoc linkages
- Mounted force and

Bridge

- Replicate full range of future weapons effects
- Some ET instrumentation/ TSS capability
- Deployable Instrumentation Systems
- Enhance homestation & deployed training support capability (L,V,C)
- Standard architecture & common data exchange protocols
- Reduced infrastructure
- Digital & Analog
- Standardized linkages to integrate L-V-C
- Dismounted force & full- spectrum operations added

OBJECTIVE

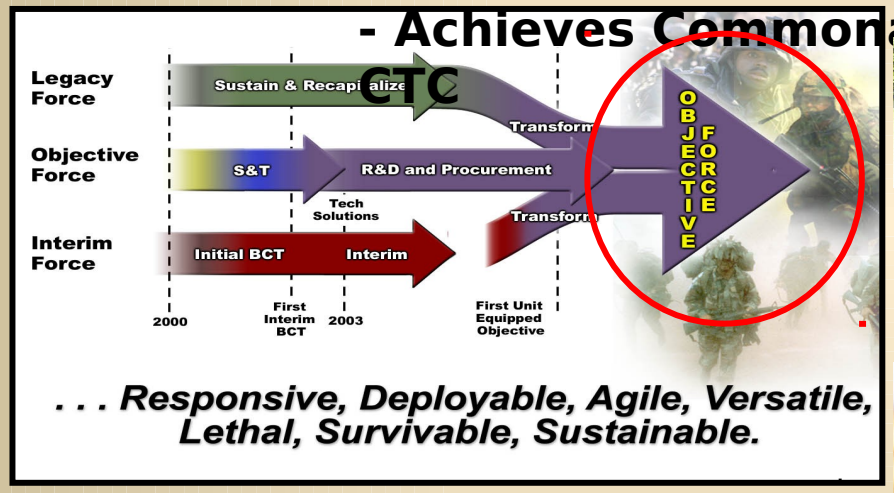
- Fully Embedded/Integrated system of system technology
- Future weapon systems effects, embedded capability and weapon systems interfaces
- Tng support and C4I fully integrated
- "Factory installed" seamless L-V-C



. . . Responsive, Deployable, Agile, Versatile, Lethal, Survivable, Sustainable.

Transforming Training Support

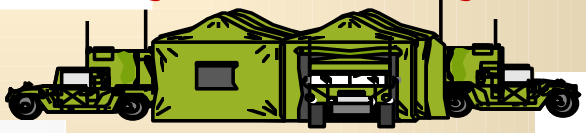
Embedded Training (FCS, C4I Systems, Land Warrior, etc)
- **Minimizes Infrastructure**
- **Utilizes Operational Comms**
- **Achieves Commonality -- Homestation, Deployed,**



Robotics

System of Systems

Non-Line Of Sight



Command Posts

Dismounted Infantry

Directed Energy

RSTA

Contemporary Operational Environment & Full-Spectrum Ops

Blend of Live, Virtual, & Construction Simulations

C4I Centric – Not "Instrumentation" Centric

Full Spectrum of Realistic Weapons Effects

C4I-Based Tng Mgt System

Transforming Training Support

- **Single Range Facility Management Support System “RFMSS 2002”**
- **Digital Multi-Purpose Range Complex (DMPRC)**
- **Combined Arms MOUT Training Facility (CAMTF)**
- **Land Expansion at Combat Training Centers**

Using an Integrated Effort to Transform Training Support

- **Executing Training and Testing Land Management.**
  - **Ensure Training Land Requirements and Assets are included in:**
    - **Range Development Plans (RDP)**
    - **Integrated Natural Resource Management Plans (INRMP)**
    - **Cultural Resource Management Plans (CRMP)**
  - **Update and Publish TC 25-1 (Training Land) and TC 25-8, (Army Ranges).**

Conclusion

- **The Challenge:**
  - ***Balancing Live Training Requirements and Encroachment Pressures while Supporting Operational Readiness.***

- **The Solution:**
  - ***A Unified Effort at the Installation that Keeps the Focus on Readiness!***

ECOSYSTEM MANAGEMENT

COMBINED ARMS TRAINING

FACILITIES ENGINEERING